

## REMARKS

Claims 1-23 are pending. Claims 1, 9, 10, and 18 have been amended. No new matter has been introduced. Reexamination and reconsideration of the application are respectfully requested.

In the December 28, 2005 Office Action, the Examiner rejected claims 1-23 under 35 U.S.C. §103 (a) as being obvious over Johnson et al., U.S. Patent No. 6,301,257 (hereinafter the Johnson reference), in view of Daruwalla et al., U.S. Patent No. 6,128,296 (hereinafter the Daruwalla reference). This rejection is respectfully traversed.

The present invention relates generally to computer networks, and more specifically, to moving information within networks.

### **Amended Independent claim 1 recites:**

A system comprising:

a plurality of ports for sending and receiving frames;

a local switching device that performs packet switching;

a local forwarding database corresponding and coupled to the local switching device, the database allowing the local switching device to look up a known address that has been previously obtained and forward frames based on the known address; and

a remote switching processing device having a programmable processor that receives and processes frames, wherein the local switching device sends an unknown destination address frame to all destination ports requesting a reply frame when a destination address is unknown in the local forwarding database, **the local switching**

**device receives the reply frame from a destination port** at a local switching device receiving port and determines if a source address of the reply frame is known in the local forwarding database, and records associations between Media Access Control (MAC) addresses and local switching device receiving ports by **forwarding a response frame to the remote switching processing device, the remote switching processing device processes the received response frame and transmits a processing directive to the local forwarding database corresponding to the local switching device directing the local switching device to update the local forwarding database with information including the source address associated with the local switching device receiving port.**

The Examiner rejected claims 1-23 under 35 U.S.C. §103 (a) as being obvious over the Johnson reference, in view of the Daruwalla reference. The Johnson reference and the Daruwalla reference do not disclose, teach, or suggest a system as specified in amended independent claim 1. Unlike the system specified in amended claim 1, the Johnson reference and the Daruwalla reference do not show a system such that “a remote switching processing device having a programmable processor that receives and processes frames, wherein the local switching device sends an unknown destination address frame to all destination ports requesting a reply frame when a destination address is unknown in the local forwarding database, **the local switching device receives the reply frame from a destination port** at a local switching device receiving port and determines if a source address of the reply frame is known in the local forwarding database, and records associations between Media Access Control (MAC) addresses and local switching device receiving ports by **forwarding a response**

**frame to the remote switching processing device, the remote switching processing device processes the received response frame and transmits a processing directive to the local forwarding database corresponding to the local switching device directing the local switching device to update the local forwarding database with information including the source address associated with the local switching device receiving port".**

The Johnson reference teaches each switch maintains its own dtag table. When a first switch receives a data packet having a destination address not already in the table, the first switch queries all other switches in the network via a broadcast packet. A second switch responds to the query with it's own switch/port number to which the node having the destination address specified in the data packet is connected. The first switch updates its own dtag table. The Johnson reference does not teach that a remote switching processing device (a third switch) processes a received response frame from the local switching device (a first switch) resulting from a reply from a destination port (a second switch) and transmits a processing directive to the local forwarding database corresponding to the local switching device directing the local switching device (the first switch) to update the local forwarding database with information including the source address associated with the local switching device receiving port.

The Johnson reference teaches that "entries in a switch's dtag table are learned and stored in the table upon the switch receiving a data packet having a destination address not already in the table. Upon such an occurrence, **the switch queries all other switches in the network via a broadcast packet** which specifies a dtag indicating that the packet is a broadcast packet. The **appropriate switch responds to**

**the query with the switch and port number of the switch/port to which the node having the destination address specified in the data packet is connected. The querying switch caches the switch and port number in a local dtag table in memory". (Col. 4, lines 4-20)**

The Johnson reference states "referring to FIG. 2, assume a packet destined for node 150 is received by switch 210 from node 140. If this is the first packet destined for node 150 received by switch 210, switch 210 does not know where to send the data packet because there is no entry in switch 210's dtag table for node 150. The switch then floods the data packet to all switches, e.g., switches 220 and 230. Furthermore, switch 210 initiates an ARP request by transmitting an ARP control packet to the other switches to determine the dtag for node 150. The appropriate switch, in this case, switch 230, responds, via an ARP response control packet, to the ARP request **with its switch number (230) and port number of the port connected to LAN 130**, over which node 150 is reachable. **Switch 220 does not respond since it does not provide a direct path to node 150."** (Col. 5, lines 18-32)

The Daruwalla reference teaches that the central switching node and local switching node maintain their own separate address tables. The central switching node and local switching node develop their own address tables based on packets forwarded in the respective central and local switching nodes. The central switching node does not transmit a processing directive to the address table corresponding to the local switching node directing the local switching node to update the local switching node address table with information including the source address associated with the local switching node receiving port.

The Daruwalla reference teaches that “the central and local switching node address tables **are not replicas of one another**, and are instead developed **based on packets forwarded in the respective central and local switching nodes.**” (Col. 4, lines 42-45.)

The Daruwalla reference teaches that “the **local switching node** address table is made up of entries **resulting from packet forwarding in the local switching node**, and the **central switching node** address table is made up of entries **resulting from packet forwarding in the central node**. Because the packet indicating source A and destination F was forwarded by the local switching node (i.e., in a flooding operation), the local switching node has access to the source address information in the packet and therefore “learns” that station address A is located on port 0. This fact is reflected in the LSN address table entry shown in transaction row 1 of table 31.”. (Col. 4, lines 46-50.)

The Daruwalla reference teaches that “whenever the local switching node forwards a packet to the central switching node via the uplink, the local switching node also transmits information indicating the local switching node port via which the packet was received. Because the central switching node has received both a packet containing a source address and information indicating the local switching node port on which the packet was received, **the central switching node is able to record an entry in its address table** for the station address and its associated local switching node port.”. (Col. 4, lines 56-66.)

The Johnson reference and the Daruwalla reference do not show a system such that “a remote switching processing device having a programmable processor that

receives and processes frames, wherein the local switching device sends an unknown destination address frame to all destination ports requesting a reply frame when a destination address is unknown in the local forwarding database, the local switching device receives the reply frame from a destination port at a local switching device receiving port and determines if a source address of the reply frame is known in the local forwarding database, and records associations between Media Access Control (MAC) addresses and local switching device receiving ports by forwarding a response frame to the remote switching processing device, the remote switching processing device processes the received response frame and transmits a processing directive to the local forwarding database corresponding to the local switching device directing the local switching device to update the local forwarding database with information including the source address associated with the local switching device receiving port”.

Accordingly, Applicants respectfully submit that independent claim 1, as amended, distinguishes over the above-cited reference. Claims 2-8 all depend, directly or indirectly, from amended independent claim 1. Therefore, Applicants respectfully submit that claims 2-8 distinguish over the above-cited reference for the same reasons as set forth above with respect to amended independent claim 1.

Independent claim 9, as amended, recites limitations similar to amended independent claim 1. Specifically, claim 9 recites “forwarding a response frame to the remote processing switching device; receiving said response frame from the local switching device at said remote switching processing device; processing the received response frame at the remote switching processing device; transmitting a processing directive to the local forwarding database corresponding to the local switching device,

directing the local switching device to update the local forwarding database with information including the source address associated with the local switching device receiving port, wherein the local switching device records associations between MAC addresses and local switching device receiving ports”. Therefore, independent claim 9, as amended, also distinguishes over the above-cited reference for the same reasons as set forth above with respect to amended independent claim 1.

Claims 10-17 all depend, directly or indirectly, from amended independent claim 9. Therefore, Applicants respectfully submit that claims 10-17 distinguish over the above-cited reference for the same reasons as set forth above with respect to amended independent claim 1.

Independent claim 18, as amended, recites limitations similar to amended independent claim 1. Specifically, claim 18 recites “the ingress switch engine receiving the reply frame from a destination port at an ingress switch engine receiving port and determining if a source address of the reply frame is known in the local forwarding database, the ingress switch engine records associations between Media Access Control (MAC) addresses and ingress switch engine receiving ports by forwarding a response frame to the processing device of the egress switch engine, the processing device of the egress switch engine processes the received response frame and transmits a processing directive to the local forwarding database corresponding to the ingress switch engine directing the ingress switch engine to update the local forwarding database with information including the source address associated with the ingress switch engine receiving port”. Therefore, independent claim 18, as amended, also distinguishes over the above-cited reference for the same reasons as set forth above

with respect to amended independent claim 1.

Claims 19-23 all depend, directly or indirectly, from amended independent claim 18. Therefore, Applicants respectfully submit that claims 19-23 distinguish over the above-cited reference for the same reasons as set forth above with respect to amended independent claim 1.

Applicants believe that the foregoing amendment and remarks place the application in condition for allowance, and a favorable action is respectfully requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles telephone number (213) 488-7100 to discuss the steps necessary for placing the application in condition for allowance should the examiner believe that such a telephone conference would advance prosecution of the application.

Respectfully submitted,

PILLSBURY WINTHROP LLP

Date: March 28, 2005

By: 

Roger B. Wise  
Registration No. 31,204  
Attorney for Applicant(s)

725 South Figueroa Street, Suite 2800  
Los Angeles, CA 90017-5406  
Telephone: (213) 488-7100  
Facsimile: (213) 629-1033